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James Garrett, Room 1016
Division of International Affairs

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Gordon M. Dunning, Health Physicist
Division of Biology and Medicine

BRITISH REQUEST ON SOLUBILITY OF FALLOUT MATERIAL

The data most closely identified with the problem raised in Col. Stewart's letter is related to the surface burst of March 1, 1954 on a coral island. Although considerable data were collected on fallout from this shot, including island water activity, solubility studies were minimal and not carried out until 9½ months or later after the detonation. These are summarized in the attached table. The solubility of fallout material shortly after a burst would be expected to be somewhat greater. Whereas, the uncertainties in these data are obvious, they do strongly indicate a very significant difference in solubility from detonations over sandy soils.

Attachment -

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Solubility of Fallout Material [a.]

Location	Date of Measurement	Filtrate [g.] (d/n/liter)	Residue
Rongelap Is. [b.]	Dec. 18, 1954	1800 ± 180	--
Rongelap Is. [c.]	Oct. 21, 1955	310 ± 190	75 ± 17
Rongelap Is. [d.]	Oct. 21, 1955	4300 ± 200	1200 ± 34
Rongelap Is. [e.]	Oct. 21, 1955	850 ± 140	75 ± 19
Enibuk Is. [f.] (Ailinginae Atoll)	Oct. 23, 1955	820 ± 140	820 ± 56

a. Radiobiological Resurvey of Rongelap and Ailinginae Atolls, Marshall Islands Staff, Applied Fisheries Laboratory, University of Washington, Seattle, Washington, December 30, 1955.

b. Well water

c. Well water

d. Cistern water

e. Cistern water (with collapsed roof)

f. Standing water from can, drum, etc.

g. Millipore filter